



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/734,836

12/12/2003

Craig E. Sherrett

1-36953

1958

43935

7590

04/19/2006

FRASER MARTIN & MILLER LLC  
132 WEST SECOND STREET  
PERRYSBURG, OH 43551

EXAMINER

A, PHI DIEU TRAN

ART UNIT

PAPER NUMBER

3637

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/734,836

**Applicant(s)**

SHERRETT ET AL.

**Examiner**

Phi D. A

**Art Unit**

3637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4-5, 10, 13, 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Mucaria (4368226).

Mucaria shows an impact resistant glass structure comprising a generally planar glass first layer (3, 5, 4) having an outer edge, a generally planar impact resistant plastic second layer (9) spaced from and substantially parallel with the first layer, the second layer having an outer edge, a generally planar glass third layer (6,8,7) with a laminate film (8) disposed on a surface thereof spaced from and substantially parallel with the first and second layer, the third layer having an outer edge, a first spacer (10, left) disposed between the first layer and the second layer adjacent the respective outer edge thereof, a second spacer (10, right) disposed between the second layer and the third layer adjacent the outer edges thereof, the outer edge of the first, the second, and the third layer are adapted to be disposed in a window casing (inherently capable of being adapted to do so), a first sealant (19) disposed between the first layer and the second layer, and between the second layer and the third layer adjacent the respective outer edges thereof, a second sealant (18) disposed between at least the first layer and the third layer adjacent the respective outer edges thereof, at least one of the first and second sealant at least partially surround the first spacer and the second spacer, the second layer being a polycarbonate, the outer edge of the second layer (9) is spaced inwardly from respective outer edges of the first layer and

Art Unit: 3637

the third layer, the first sealant and the second sealant (19, 18) hold the first and second spacers in place and militate against the separation of the first layer, the second layer, and the third layer, the film (8) is disposed on one of the inner surface of the third layer.

3. Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Mucaria (4368226).

Mucaria shows an impact resistant glass structure comprising a generally planar glass first layer (3, 5, 4) having an outer edge, a generally planar impact resistant plastic second layer (9) spaced from and substantially parallel with the first layer, the second layer having an outer edge, a generally planar laminated glass third layer (6,8,7) spaced from and substantially parallel with the first and second layer, the third layer having an outer edge, a first spacer (10, left) disposed between the first layer and the second layer adjacent the respective outer edge thereof, a second spacer (10, right) disposed between the second layer and the third layer adjacent the outer edges thereof, the outer edge of the first layer, the outer edge of the second layer, and the outer edge of the third layer are adapted to be disposed in a window casing (inherently capable of being adapted to do so), a first sealant (19) disposed between the first layer and the second layer, and between the second layer and the third layer adjacent the respective outer edges thereof, a second sealant (18) disposed between at least the first layer and the third layer adjacent the respective outer edges thereof, the first sealant and the second forming a vapor barrier between at least one of a space formed between the first layer and the second layer and the atmosphere, and a space formed between the second layer and the third layer and the atmosphere.

4. Claim 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Mucaria (4368226).

Mucaria shows an impact resistant glass structure comprising a generally planar glass first layer (3, 5, 4) having an outer edge, a generally planar impact resistant plastic second layer (9) spaced from and substantially parallel with the first layer, the second layer having an outer edge, a generally planar glass third layer (6,8,7) with a laminate film (8) disposed on a surface thereof spaced from and substantially parallel with the first and second layer, the third layer having an outer edge, a first spacer (10, left) disposed between the first layer and the second layer adjacent the respective outer edge thereof, a second spacer (10, right) disposed between the second layer and the third layer adjacent the outer edges thereof, the outer edge of the first layer, the outer edge of the second layer, and the outer edge of the third layer are adapted to be disposed in a window casing (inherently capable of being adapted to do so), a first space is formed between the first layer and the second layer and a second space is formed between the second layer and the third layer, and communication between the first and second space is militated against, a first sealant (19) disposed between the first layer and the second layer, and between the second layer and the third layer adjacent the respective outer edges thereof, a second sealant (18) disposed between at least the first layer and the third layer adjacent the respective outer edges thereof.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mucaria (4368226) in view of France (6286288).

Mucaria shows all the claimed limitations except for the first sealant being a polyisobutylene sealant.

France discloses polyisobutylene sealant as having an excellent moisture barrier properties (col 3 line 13-15).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mucaria's structure to show the first sealant being a polyisobutylene sealant because polyisobutylene sealant has excellent moisture barrier properties as taught by France, and the excellent moisture barrier property is desired by Mucaria's disclosure as it forms a moisture barrier.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mucaria in view of France as applied to claim 4 above, and further in view of Hood et al (5784853).

Mucaria as modified shows all the claimed limitations except for the second sealant being a polyurethane sealant.

Hood et al discloses sealant (44) being polyurethane, polyurethane sealant provides for high modulus, low creep, low moisture vapor transmitting properties (col 6 lines 33-40).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mucaria's modified structure to show the second sealant being a polyurethane sealant because polyurethane provides for a high modulus, low creep, low moisture vapor transmitting sealant between glass as taught by Hood et al and thus desired for forming a vapor barrier in an insulating glass unit.

Art Unit: 3637

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mucaria in view of Hood et al (5784853).

Mucaria shows all the claimed limitations except for a gas filled air space being formed between at least one of the first layer and the second layer, the second layer and the third layer.

Hood et al discloses filling interspaces between layers of an insulating unit with an insert low heat transfer gas to reduce heat conductance across the insulating unit with (col 6 lines 13-20).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mucaria's structure to show a gas filled air space being formed between at least one of the first layer and the second layer, the second layer and the third layer because filling the interspaces with an inert low heat transfer gas would reduce heat conductance across the insulating unit as taught by Hood et al.

9. Claims 8, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mucaria in view of Hood et al (5784853).

Mucaria shows all the claimed limitations except for the first and second layer being an annealed glass.

Hood et al discloses the first and second layer being an annealed glass (col 4 line 36, glass tempered).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mucaria's structure to show the first and second layer being an annealed glass as taught by Hood et al because annealing the glass would enhance the properties of the

Art Unit: 3637

first and third layers by improving the scratch resistant and element resistant properties of the glass layers.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mucaria in view of Hood et al (5784853).

Mucaria shows all the claimed limitations except for the first layer having a low-E material deposited thereon.

Hood et al discloses the first layer having a low-E material deposited thereon (col 4 lines 29-36, coated, tinted, pigmented) to promote heat rejection, to control UV transmission.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mucaria's structure to show the first layer having a low-E material deposited thereon because it would allow for the promoting of heat rejection and UV transmission control as taught by Hood et al.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mucaria in view of Smith et al.

Mucaria shows all the claimed limitations except for the second layer being a polymethyl methacrylate

Smith et al discloses the second layer being a polymethyl methacrylate or polycarbonate.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mucaria's structure to show the second layer being a polymethyl methacrylate because polymethyl methacrylate and polycarbonate are well known plastic for forming an impact resistant thermoplastic sheet in a multiple layer window as taught by Smith et al.



Art Unit: 3637

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mucaria in view of Hood et al (5784853).

Mucaria shows all the claimed limitations except for the second layer being of polyethylene terephthalate.

Hood et al discloses the second layer being of polycarbonate materials and the like, the preference being for polyesters such as polyethylene terephthalate (col 4 line 49).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mucaria's structure to show the second layer being of polyethylene terephthalate because polyethylene terephthalate is a preferred material for forming an interior layer of an insulating glass unit as taught by Hood et al.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mucaria in view of Ford (4459789).

Mucaria shows all the claimed limitations except for the film being a polyester.

Ford discloses a film being polyester between glass layers (36a, 36b) to transmit light efficiently and reflect radiant energy in the infrared range ( col 4 lines 10-15).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mucaria's structure to show the second layer being of polyester because polyester allows for the efficient transmission of light as taught by Ford.

#### ***Response to Arguments***

14. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art shows different insulating panel designs.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 571-272-6864. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 571-272-6867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3637

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phi Dieu Tran A



4/11/06

**LANNA MAI**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 3600**

